

**REMARKS**Regarding the Status of the Claims:

Claims 24, 26, 30, 31, 34, 41, and 43 are pending.

Claims 1 – 23, 25, 27 – 29, 32 – 33, 35 – 40, and 42 have been cancelled.

No claims have been withdrawn from consideration.

Regarding the Claim Amendments presented in this reply:

The amendments to the claims add no new matter. The amendments to claims 24, 41, and 43 find support in the specification on page 18, lines 19 to 22, which states “[t]he average molecular weights (weight mean value M<sub>w</sub>, determined by gel permeation chromatography in tetrahydrofuran against polystyrene standards) of the polycarbonates C are, in accordance with the invention, in the range from 10,000 to 64,000 g/mol.”

Regarding the Claim Rejections:

- I. The table below summarizes the six rejections presented in numbered paragraphs 2 – 7 of the final Office action mailed March 17, 2008.

In Office action at:	Paragraph 2, page 2	Paragraph 3, page 4	Paragraph 4, page 7	Paragraph 5, page 8	Paragraph 6, page 10	Paragraph 7, page 11
Claims Rejected:	24, 31, and 41	24, 31, 34, and 41	24, 31, and 41	24 and 31	24, 31, and 41	24, 31, and 41
Statutory Ground:	35 U.S.C §103(a)	35 U.S.C §103(a)				
References Cited:	Fischer	Fischer				Fischer
	Salmetall					
	Yutaka	Yutaka				Yutaka
	Rosenau	Rosenau	Rosenau	Rosenau	Rosenau	Rosenau
		Ellison	Ellison			
				Trabert		
					Endoh	Endoh

Claims 24 and 41 are directed to a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol. Claim 31 depends from claim 24. Claim 34 depends from claim 24.

The Examiner has agreed that Rosenau "fails to teach or suggest a ground or granulated component consisting of polycarbonate."<sup>1</sup> The Examiner has agreed that "Sallmetall, Ellison, Trabert, Endoh, and Fischer ... [fail to provide a skilled artisan with an] apparent reason to combine and modify the references so as to arrive at a substrate comprising polycarbonate."<sup>2</sup> The Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>3</sup>

The rejection of claims 24, 31, and 41 under 35 U.S.C §103(a) at paragraph 2, page 2 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. In light of the Examiner's repeated allegation that applicants have improperly attempted to argue against the references individually, applicants note that this rejection is made over the combination of Fischer, Sallmetall, Yutaka, and Rosenau. However, the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>4</sup> Applicants submit, therefore, that with regard to that feature of the present claims, the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

Yutaka discloses a thermoplastic resin composition having remarkably improved appearance, and high impact resistance, made by compounding a polycarbonate resin to an "AAS-resin"<sup>5</sup> prepared by using a specific crosslinked acrylic rubber having a multi-layered structure.<sup>6</sup>

<sup>1</sup> Page 18, lines 18 – 22 of the Office action mailed March 17, 2008.

<sup>2</sup> Page 18, lines 20 – 22 of the Office action mailed March 17, 2008.

<sup>3</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>4</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>5</sup> Abstract: line 4 of Yutaka et al. (JP 61-026646).

<sup>6</sup> Abstract Yutaka et al. (JP 61-026646).

Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol. Yutaka does not disclose any characteristics of the polycarbonates to be utilized. Thus, Yutaka fails to provide any apparent reason to arrive at these claim limitations. The Office action also fails to provide an apparent reason to arrive at these claim limitations. With regard to the "ground or granulated" limitation, the Office action merely asserts that "[n]o showing has been made that the form in which the polycarbonate is supplied affects the final product."<sup>7</sup> Applicants respectfully assert, however, that the initial burden is on the Examiner to establish a *prima facie* case that the "ground or granulated" limitation would have been obvious to a person of ordinary skill in the art. The Office action fails to meet this burden. In fact, the Office action does not even allege that it would have been obvious for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate. Therefore, a showing of unexpected results is not necessary.

Additionally, Applicants respectfully maintain that a skilled artisan would have had the skill to understand that Yutaka does not provide a generalized teaching that any core/shell graft copolymer may be improved by compounding it with 5 – 95 wt % polycarbonate. Yutaka does not provide a generalized teaching that any AAS-resin may be improved by compounding it with 5 – 95% polycarbonate. A skilled artisan would have understood that Yutaka teaches that improved appearance, and high impact resistance can be achieved when a thermoplastic resin composition is made by compounding a polycarbonate resin to an AAS-resin prepared by using a specific crosslinked acrylic rubber having a multi-layered structure. The Office action incorrectly asserts that "[t]he AAS polymers disclosed in Yutaka are broad enough to read on the AAS polymers of the primary references."<sup>8</sup> This assertion is incorrect, because none of the primary references disclose an AAS-resin prepared by using a specific crosslinked acrylic rubber having a multi-layered structure. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

<sup>7</sup> Page 4, lines 5 – 6 of the Office action mailed March 17, 2008.

<sup>8</sup> Page 19, lines 13 – 15 of the Office action mailed March 17, 2008.

The rejection of claims 24, 31, 34, and 41 under 35 U.S.C §103(a) at paragraph 3, page 4 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Yutaka, Rosenau, and Ellison. However, the Examiner has stated that only “Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate.”<sup>9</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka’s teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

The rejection of claims 24, 31, and 41 under 35 U.S.C §103(a) at paragraph 4, page 7 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Ellison fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of the rejection presented at paragraph 3, page 4.

The rejection of claims 24 and 31 under 35 U.S.C §103(a) at paragraph 5, page 8 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Trabert fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

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<sup>9</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

Applicants also note that claims 24 and 31 are directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. Instead, the Office action asserts that “[i]t would have been obvious to one of ordinary skill in the art to coextrude the capstock taught in Trabert with the composition taught in Rosenau in order to improve its chemical resistance, and impact strength.”<sup>10</sup> This assertion fails to establish a *prima facie* case of obviousness, because Trabert does not disclose that the layer of polymethylmethacrylate which is coextruded with an underlying structure shall be transparent. Indeed, column 1, lines 43 to 48 states that “[a]s a class, acrylic resins, known for their excellent optical characteristics, resistance to degradation by sunlight, hardness, inertness to water and common chemicals, durability, and toughness, are capstocks of choice for various structural plastics, such as ABS sheet.” Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require the PMMA-layer to be transparent upon making the proposed combination.

The rejection of claims 24, 31, and 41 under 35 U.S.C §103(a) at paragraph 6, page 10 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Endoh fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of the rejection presented at paragraph 7, page 11.

For the sake of completeness, Applicants note that claims 24, 31, and 41 are directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. Instead, the Office action asserts that “[i]t would have been obvious to one of ordinary skill in the art to extrude the composition taught in Rosenau with the polyvinylidene fluoride and

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<sup>10</sup> Page 9, lines 18 – 20 of the Office action mailed March 17, 2008.

PMMA layers taught in Endoh in order to improve the composition's weather and chemical resistance.”<sup>11</sup> This assertion fails to establish a *prima facie* case of obviousness, because Endoh merely discloses an extrusion laminated product comprising at least three layers, wherein at least one of the surface layers comprises polyvinylidene fluoride, and wherein an adhesive layer which is provided between the surface layer and other thermoplastic resin layers comprises a polymer comprising at least one of methylmethacrylate and ethylmethacrylate as a major component. According to page 9, line 14 to page 10, line 15, PMMA is used as an adhesive layer to bond the polyvinylidene fluoride outer layer and another thermoplastic resin layer. Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require a transparent PMMA-layer to be present on top of a laminated sheet or film upon making the proposed combination.

The rejection of claims 24, 31, and 41 under 35 U.S.C §103(a) at paragraph 7, page 11 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Yutaka, Rosenau, and Endoh. However, the Examiner has stated that only “Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate.”<sup>12</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka’s teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should

<sup>11</sup> Page 11, lines 4 – 5 of the Office action mailed March 17, 2008.

<sup>12</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

be withdrawn.

Again, as discussed above, Applicants also note that the Office action has failed to provide any apparent reason for a skilled artisan to require a transparent PMMA-layer to be present on top of a laminated sheet or film upon making the proposed combination.

II. The table below summarizes the six rejections of claim 30 under 35 U.S.C §103(a) presented in numbered paragraph 8 of the final Office action mailed March 17, 2008.

In Office action at:	Paragraph 8, heading (a), page 13	Paragraph 8, heading (b), page 13	Paragraph 8, heading (c), page 13	Paragraph 8, heading (d), page 13	Paragraph 8, heading (e), page 13 - 14	Paragraph 8, heading (f), page 14
References Cited:	Fischer	Fischer				Fischer
	Sallmetall					
	Rosenau	Rosenau	Rosenau	Rosenau	Rosenau	Rosenau
	Yutaka	Yutaka				Yutaka
		Ellison	Ellison			
				Trabert		
					Endoh	Endoh
						Tsai

Claim 30 depends from claim 24, directed to a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

The Examiner has agreed that Rosenau "fails to teach or suggest a ground or granulated component consisting of polycarbonate."<sup>13</sup> The Examiner has agreed that "Sallmetall, Ellison, Trabert, Endoh, and Fischer ... [fail to provide a skilled artisan with an] apparent reason to combine and modify the references so as to arrive at a substrate comprising polycarbonate."<sup>14</sup> The Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>15</sup>

<sup>13</sup> Page 18, lines 18 – 22 of the Office action mailed March 17, 2008.

<sup>14</sup> Page 18, lines 20 – 22 of the Office action mailed March 17, 2008.

<sup>15</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

The rejection of claim 30 under 35 U.S.C §103(a) at paragraph 8, heading (a), page 13 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Sallmetall, Rosenau, and Yutaka. However, the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>16</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

The rejection of claim 30 under 35 U.S.C §103(a) at paragraph 8, heading (b), page 13 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Rosenau, Yutaka, and Ellison. However, the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>17</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to

<sup>16</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>17</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

The rejection of claim 30 under 35 U.S.C §103(a) at paragraph 8, heading (c), page 13 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Ellison fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of the rejection presented at paragraph 8, heading (b), page 13.

The rejection of claim 30 under 35 U.S.C §103(a) at paragraph 8, heading (d), page 13 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Trabert fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

Applicants also note that claim 30 is directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. Instead, the Office action asserts that “[i]t would have been obvious to one of ordinary skill in the art to coextrude the capstock taught in Trabert with the composition taught in Rosenau in order to improve its chemical resistance, and impact strength.”<sup>18</sup> This assertion fails to establish a *prima facie* case of obviousness, because Trabert does not disclose that the layer of polymethylmethacrylate which is coextruded with an underlying structure shall be transparent. Indeed, column 1, lines 43 to 48 states that “[a]s a class, acrylic resins, known for their excellent optical

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<sup>18</sup> Page 9, lines 18 – 20 of the Office action mailed March 17, 2008.

characteristics, resistance to degradation by sunlight, hardness, inertness to water and common chemicals, durability, and toughness, are capstocks of choice for various structural plastics, such as ABS sheet.” Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require the PMMA-layer to be transparent upon making the proposed combination.

The rejection of claim 30 under 35 U.S.C §103(a) at paragraph 8, heading (e), page 13 – 14 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Endoh fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of the rejection presented at paragraph 8, heading (f), page 14.

For the sake of completeness, Applicants note that claim 30 is directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. Instead, the Office action asserts that “[i]t would have been obvious to one of ordinary skill in the art to extrude the composition taught in Rosenau with the polyvinylidene fluoride and PMMA layers taught in Endoh in order to improve the composition’s weather and chemical resistance.”<sup>19</sup> This assertion fails to establish a *prima facie* case of obviousness, because Endoh merely discloses an extrusion laminated product comprising at least three layers, wherein at least one of the surface layers comprises polyvinylidene fluoride, and wherein an adhesive layer which is provided between the surface layer and other thermoplastic resin layers comprises a polymer comprising at least one of methylmethacrylate and ethylmethacrylate as a major component. According to page 9, line 14 to page 10, line 15, PMMA is used as an adhesive layer to bond the polyvinylidene fluoride outer layer and another thermoplastic resin layer. Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require a

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<sup>19</sup> Page 11, lines 4 – 5 of the Office action mailed March 17, 2008.

transparent PMMA-layer to be present on top of a laminated sheet or film upon making the proposed combination.

The rejection of claim 30 under 35 U.S.C §103(a) at paragraph 8, heading (f), page 14 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Rosenau, Yutaka, Endoh, and Tsai. However, the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>20</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

Again, for the sake of completeness, Applicants also note that the Office action has failed to provide any apparent reason for a skilled artisan to require a transparent PMMA-layer to be present on top of a laminated sheet or film upon making the proposed combination.

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<sup>20</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

III. The table below summarizes the six rejections of claim 26 under 35 U.S.C §103(a) presented in numbered paragraph 9 of the final Office action mailed March 17, 2008.

In Office action at:	Paragraph 9, heading (a), page 14	Paragraph 9, heading (b), page 14	Paragraph 9, heading (c), page 14	Paragraph 9, heading (d), page 14	Paragraph 9, heading (e), page 14	Paragraph 9, heading (f), page 14
References Cited:	Fischer	Fischer				Fischer
	Sallmetall					
	Rosenau	Rosenau	Rosenau	Rosenau	Rosenau	Rosenau
	Yutaka	Yutaka				Yutaka
		Ellison	Ellison			
				Trabert		
					Endoh	Endoh

Claim 26 depends from claim 24, directed to a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

The Examiner has agreed that Rosenau “fails to teach or suggest a ground or granulated component consisting of polycarbonate.”<sup>21</sup> The Examiner has agreed that “Sallmetall, Ellison, Trabert, Endoh, and Fischer … [fail to provide a skilled artisan with an] apparent reason to combine and modify the references so as to arrive at a substrate comprising polycarbonate.”<sup>22</sup> The Examiner has stated that only “Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate.”<sup>23</sup>

The rejection of claim 26 under 35 U.S.C §103(a) at paragraph 9, heading (a), page 14 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Sallmetall, Rosenau, and Yutaka. However, the Examiner has stated that only “Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate.”<sup>24</sup>

<sup>21</sup> Page 18, lines 18 – 22 of the Office action mailed March 17, 2008.

<sup>22</sup> Page 18, lines 20 – 22 of the Office action mailed March 17, 2008.

<sup>23</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>24</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

The rejection of claim 26 under 35 U.S.C §103(a) at paragraph 9, heading (b), page 14 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Rosenau, Yutaka, and Ellison. However, the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>25</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

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<sup>25</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

The rejection of claim 26 under 35 U.S.C §103(a) at paragraph 9, heading (c), page 14 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Ellison fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of the rejection presented at paragraph 9, heading (b), page 14.

The rejection of claim 26 under 35 U.S.C §103(a) at paragraph 9, heading (d), page 14 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Trabert fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this fails to establish a *prima facie* case of obviousness and rejection should be withdrawn.

Applicants also note that claim 26 is directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. Instead, the Office action asserts that “[i]t would have been obvious to one of ordinary skill in the art to coextrude the capstock taught in Trabert with the composition taught in Rosenau in order to improve its chemical resistance, and impact strength.”<sup>26</sup> This assertion fails to establish a *prima facie* case of obviousness, because Trabert does not disclose that the layer of polymethylmethacrylate which is coextruded with an underlying structure shall be transparent. Indeed, column 1, lines 43 to 48 states that “[a]s a class, acrylic resins, known for their excellent optical characteristics, resistance to degradation by sunlight, hardness, inertness to water and common chemicals, durability, and toughness, are capstocks of choice for various structural plastics, such as ABS sheet.” Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require the PMMA-layer to be transparent upon making the proposed combination.

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<sup>26</sup> Page 9, lines 18 – 20 of the Office action mailed March 17, 2008.

The rejection of claim 26 under 35 U.S.C §103(a) at paragraph 9, heading (e), page 14 of the Office action does not cite Yutaka. Since the Examiner has agreed that a combination of Rosenau and Endoh fails to provide a skilled artisan with an apparent reason to arrive at a substrate comprising polycarbonate, this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of the rejection presented at paragraph 9, heading (f), page 14.

For the sake of completeness, Applicants note that claim 30 is directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of polymethyl methacrylate. Instead, the Office action asserts that “[i]t would have been obvious to one of ordinary skill in the art to extrude the composition taught in Rosenau with the polyvinylidene fluoride and PMMA layers taught in Endoh in order to improve the composition’s weather and chemical resistance.”<sup>27</sup> This assertion fails to establish a *prima facie* case of obviousness, because Endoh merely discloses an extrusion laminated product comprising at least three layers, wherein at least one of the surface layers comprises polyvinylidene fluoride, and wherein an adhesive layer which is provided between the surface layer and other thermoplastic resin layers comprises a polymer comprising at least one of methylmethacrylate and ethylmethacrylate as a major component. According to page 9, line 14 to page 10, line 15, PMMA is used as an adhesive layer to bond the polyvinylidene fluoride outer layer and another thermoplastic resin layer. Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require a transparent PMMA-layer to be present on top of a laminated sheet or film upon making the proposed combination.

The rejection of claim 26 under 35 U.S.C §103(a) at paragraph 9, heading (f), page 14 of the Office action fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, Rosenau, Yutaka, and Endoh. However, the Examiner has stated that only

<sup>27</sup> Page 11, lines 4 – 5 of the Office action mailed March 17, 2008.

"Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>28</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

Again, for the sake of completeness, Applicants also note that the Office action has failed to provide any apparent reason for a skilled artisan to require a transparent PMMA-layer to be present on top of a laminated sheet or film upon making the proposed combination.

IV. The table below summarizes the four rejections of claim 43 under 35 U.S.C §103(a) presented in numbered paragraphs 10 and 11 of the final Office action mailed March 17, 2008.

In Office action at:	Paragraph 10, page 15	Paragraph 10, page 15	Paragraph 11, page 17	Paragraph 11, page 17
References Cited:	Fischer	Fischer		
	Zabrocki		Zabrocki	
		McDonagh		McDonagh
		Rosenau	Rosenau	Roseneau
		Yutaka		

Claim 43 is directed to a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an

<sup>28</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

The Examiner has agreed that Rosenau "fails to teach or suggest a ground or granulated component consisting of polycarbonate."<sup>29</sup> The Examiner has agreed that "Sallmetall, Ellison, Trabert, Endoh, and Fischer ... [fail to provide a skilled artisan with an] apparent reason to combine and modify the references so as to arrive at a substrate comprising polycarbonate."<sup>30</sup> The Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>31</sup>

The rejection of claim 43 under 35 U.S.C §103(a) over Fischer and Zabrocki at paragraph 10, page 15 of the Office action does not cite Yutaka. Since the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate[,]"<sup>32</sup> this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

The rejection of claim 43 under 35 U.S.C §103(a) over Fischer, McDonagh, Rosenau, and Yutaka at paragraph 10, page 15 fails to establish a *prima facie* case of obviousness and should be withdrawn. Applicants note that this rejection is made over the combination of Fischer, McDonagh, Rosenau, and Yutaka. However, the Examiner has stated that only "Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate."<sup>33</sup> Applicants submit, therefore, that the issue is whether Yutaka would have provided a skilled artisan with an apparent reason to modify the other references to arrive at a laminated sheet or film comprising a (co)extruded layer of a ground or granulated component, which consists of a polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

As discussed above, Yutaka provides no apparent reason for a skilled artisan to utilize a ground or granulated component consisting of polycarbonate, having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol, and Yutaka's teaching is limited to a specific AAS-resin, prepared by using a specific crosslinked

<sup>29</sup> Page 18, lines 18 – 22 of the Office action mailed March 17, 2008.

<sup>30</sup> Page 18, lines 20 – 22 of the Office action mailed March 17, 2008.

<sup>31</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>32</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>33</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

acrylic rubber having a multi-layered structure, which is not disclosed in the primary references. The rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

For the sake of completeness, Applicants note that claim 43 is directed to a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of styrene-acrylonitrile copolymer. The Office action makes no assertion that it would have been obvious for a skilled artisan to arrive at a laminated sheet or film comprising as a (co)extruded layer, a transparent top layer of styrene-acrylonitrile copolymer. Instead, the Office action asserts that “it would have been obvious to one of ordinary skill in the art to apply the protective layer taught in McDonagh to the composition taught in Fischer in order to improve its weather resistance.”<sup>34</sup> This assertion fails to establish a *prima facie* case of obviousness, because McDonagh merely discloses a laminate comprising (1) a base layer of synthetic resin, and (2) a crosslinked (meth)acrylate/crosslinked styrene-acrylonitrile/uncrosslinked styrene-acrylonitrile composition as a protective top layer. Thus, the Office action has failed to provide any apparent reason for a skilled artisan to require the top layer to be a transparent top layer of styrene-acrylonitrile copolymer, upon making the proposed combination.

The rejection of claim 43 under 35 U.S.C §103(a) over Zabrocki and Rosenau at paragraph 11, page 17 of the Office action does not cite Yutaka. Since the Examiner has stated that only “Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate[,]”<sup>35</sup> this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn.

The rejection of claim 43 under 35 U.S.C §103(a) over McDonagh and Rosenau at paragraph 11, page 17 of the Office action does not cite Yutaka. Since the Examiner has stated that only “Yutaka was relied upon in each pending rejection to teach the claimed polycarbonate[,]”<sup>36</sup> this rejection fails to establish a *prima facie* case of obviousness and should be withdrawn. Moreover, this rejection is redundant in light of

<sup>34</sup> Page 16, lines 13 – 15 of the Office action mailed March 17, 2008.

<sup>35</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

<sup>36</sup> Page 19, lines 1 – 2 of the Office action mailed March 17, 2008.

the rejection presented at paragraph 10, page 15 over Fischer, McDonagh, Rosenau, and Yutaka.

As discussed above, the Office action has also failed to provide any apparent reason for a skilled artisan to require the top layer to be a transparent top layer of styrene-acrylonitrile copolymer, upon making the proposed combination.

#### V. Unexpected Results have been established.

Since a *prima facie* case of obviousness has not been established, a showing of unexpected results is not necessary, however, applicants have already demonstrated results that would have been unexpected by one having ordinary skill in the art of laminates. Applicants have demonstrated in table 2 of the Specification (reproduced below) that the penetration energy of sheets practiced according to the present invention is unexpectedly increased when a (co)extruded layer of polycarbonate is utilized as 10 – 80% by weight of the substrate layer.

As shown in Table 2, the penetration energy of sheets without polycarbonate is only 10.6 Nm. The penetration energy of sheets practiced according to the present invention is between 21.3 and 31.7 Nm.

Sheet made of	Penetration energy [Nm] - 30°C
PMMA/HI-PMMA/component (I) with polycarbonate	21.3
PMMA/component (I)/component (I) with polycarbonate	26.3
PMMA/polycarbonate/component (I) with polycarbonate	31.7
PMMA/component (I)	10.6
PMMA/ABS	6.8

Table 2 demonstrates a clear trend that the presence of polycarbonate in the inventive laminated sheets or films results in improved penetration energy. The

magnitude of this improvement coupled with the disclosure of the application enables one having ordinary skill in the art of laminates to extend the trend of unexpected results over the entirety of the claimed weight % range for ground or granulated component C, which consists of a polycarbonate having an average molecular weight ( $M_w$ ) in the range of from 10,000 to 64,000 g/mol.

This result would have been unexpected by one having ordinary skill in the art of laminates.

Additionally, applicants have stated under oath that “[t]he addition of polycarbonates leads inter alia to greater thermal stability and improved crack resistance of the sheets, films and moldings.”<sup>37</sup> This result would have been unexpected by one having ordinary skill in the art of laminates.

In Conclusion:

The present application is in condition for allowance. Applicants request favorable action in this matter. In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner is welcome to contact the undersigned by phone to further the discussion.

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<sup>37</sup> Page 19, lines 5 – 6 of the Specification.